

AMENDMENTS TO THE CLAIMS

This listing of the claims will replace all prior versions and listings of claims in the application:

1-18. (cancelled).

19. (previously presented) A device for the treatment of femoral fractures comprising:

an intramedullary pin having a first longitudinal axis, a proximal portion, a distal portion, and at least one transverse opening through the proximal portion of the pin, the at least one transverse opening forming an oblique angle with the first longitudinal axis and having a non-circular cross-section;

a bone fixation element having a second longitudinal axis, a first end, a second end, and a shaft, the first end configured and dimensioned to engage bone in the femoral head,

a sliding sleeve having a central bore, an interior surface profile, and an exterior surface profile, the central bore and interior surface profile configured to receive the shaft of the bone fixation element while permitting free rotation of the bone fixation element relative to the sleeve, and the exterior surface profile having at least a portion with a non-circular cross-section adapted to mate with the non-circular cross-section of the transverse opening, thereby preventing rotation of the sleeve with respect to the intramedullary pin; and

a locking mechanism configured and adapted to selectively lock rotation of the bone fixation element relative to the sleeve when in a first position and permit free rotation of the bone fixation element relative to the sleeve when in a second position.

20. (previously presented) The device of claim 19, wherein the bone fixation element, sliding sleeve and locking mechanism are adapted for insertion through the transverse opening in the pin as a single preassembled unit.

21. (previously presented) The device of claim 19, wherein the second end of the bone fixation element includes a longitudinal bore.

22. (previously presented) The device of claim 21, wherein the longitudinal bore at the second end of the bone fixation element is at least partially threaded.

23. (previously presented) The device of claim 22, wherein the locking mechanism is a fixing screw having a screw head with a diameter D and a screw shank with a diameter d having an outside thread, where $D > d$.
24. (previously presented) The device of claim 23, wherein the outside thread of the fixing screw shank corresponds to the threaded bore of the bone fixation element, and progressive tightening of the fixing screw within the threaded bore rotationally locks the bone fixation element with the sliding sleeve, thereby preventing rotation of the bone fixation element relative to the sliding sleeve.
25. (previously presented) The device of claim 19, wherein the bone fixation element is axially fixed relative to the sliding sleeve.
26. (previously presented) The device of claim 25, wherein the shaft of the bone fixation element includes a first annular groove and the internal surface profile of the sliding sleeve includes a second annular groove, and a ring element engages both the first and second annular grooves to prevent axial displacement of the shaft relative to the sliding sleeve.
27. (previously presented) The device of claim 19, wherein a rear end of the sliding sleeve extends a distance x past the second end of the bone fixation element, where x is at least 0.01 mm.
28. (previously presented) The device of claim 19, wherein the second end of the bone fixation element includes an externally threaded portion.
29. (previously presented) The device of claim 28, wherein the locking mechanism is a nut with an internal thread that corresponds to the externally threaded portion at the second end of the bone fixation element.
30. (previously presented) The device of claim 19, wherein the first end of the bone fixation element includes a helical blade.
31. (previously presented) The device of claim 19, wherein the first end of the bone fixation element includes a screw thread, a chisel, a pin, a T-section or a double T-section.

32. (previously presented) The device of claim 19, wherein the first end of the bone fixation element includes a plurality of helical blades.
33. (previously presented) The device of claim 30, wherein the helical blade has a pitch of at least 50 mm.
34. (previously presented) The device of claim 19, wherein the locking mechanism is adapted to limit axial displacement of the sliding sleeve relative to the intramedullary pin.
35. (previously presented) The device of claim 19, wherein the bone fixation element is a screw.
36. (previously presented) The device of claim 19, wherein the external surface profile of the sliding sleeve includes a longitudinal projection that mates with a longitudinal recess in the transverse opening.
37. (currently amended) A device for the treatment of femoral fractures comprising:
- an intramedullary pin having a first longitudinal axis, a proximal portion, a distal portion, and at least one transverse opening through the proximal portion of the pin, the at least one transverse opening forming an oblique angle with the ~~central~~ first longitudinal axis and having a non-circular cross-section;
 - a cross-member configured for insertion through the transverse opening to engage bone in the femoral head, the cross-member including:
 - a sliding sleeve having a central bore, a circular interior surface profile, and a non-circular exterior surface profile, the exterior surface profile adapted to mate with the non-circular cross-section of the transverse opening, thereby preventing rotation of the sleeve with respect to the intramedullary pin,
 - a bone fixation element having a first end, a second end, and a shaft, the first end configured and dimensioned to engage bone in the femoral head, and the shaft configured and dimensioned for free rotation within the central bore of the sliding sleeve, and

a locking mechanism configured and adapted to selectively lock rotation of the bone fixing element relative to the sleeve when in a first position and permit free rotation of the bone fixing element relative to the sleeve when in a second position.

38. (previously presented) The device of claim 37, wherein the cross-member is adapted for insertion through the transverse opening in the pin as a single preassembled unit.

39. (previously presented) The device of claim 37, wherein the first end of the bone fixation element includes a helical blade.

40. (previously presented) The device of claim 37, wherein the bone fixation element is a screw.